CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 96-050

RESCINDING ORDER NOS. 89-115, 90-090 91-018, and 93-161;
and REVISING SITE CLEANUP REQUIREMENTS FOR:

CIT-ALCATEL, INC. (formerly known as **LYNCH CIRCUITS, INC.**)
and
SILICONIX, INC.

for the property located at

1140 WEST EVELYN AVENUE
SUNNYVALE
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the Board), finds that:

1. **Site Location**: The site is located at 1140 West Evelyn Avenue, Sunnyvale, California. The site is bordered by West Evelyn Avenue to the north, Bernardo Avenue to the west, El Camino Real to the south, and Mary Avenue to the east. The site covers approximately 1 acre and consists of one manufacturing building and a small parking lot on the northern side of the property (Figure 1).

2. **Site History**: The facility was constructed in 1962 and leased by Renault and Handley to Siliconix, who manufactured transistors and integrated circuits at the facility until 1970. Lynch Circuits manufactured printed circuit boards at the facility from 1977 to 1987. Lynch Circuits purchased the building and property in 1979. Lynch Circuits, Inc. merged with and into CIT-Alcatel, Inc. in December 1995. The building is currently vacant.

3. **Named Dischargers**: Lynch Circuits and Siliconix are named as a dischargers because of their chemical usage history and chemical release to soil and groundwater at the site during its occupancy. CIT-Alcatel is named as a discharger because it is the current owner of the property.

   If additional information is submitted indicating that any other parties caused or permitted any waste to be discharged on the site where it entered or could have entered waters of the State, the Board will consider adding that party's name to this Order.

4. **Site Hydrogeology**: The shallow water bearing zone is located between 50 and 65 feet below ground surface. The shallow zone is a 20 foot thick zone of poor- to well-graded sand and gravel overlain by silt and clay interbedded with silty and poorly graded fine sands and clayey gravel. Groundwater flow is north-northwest at a gradient of about 0.02 ft/ft.

   The deeper water bearing zone is located between 88 and 103 feet below ground surface. It is separated from the shallow zone by greenish-grey silty clays and clay to depths between 80 and 88 feet below the surface. The deeper zone is approximately 10 feet thick and consists of coarse sand and gravel.

5. **Remedial Investigation**: 12 wells were installed to monitor groundwater quality beneath the site. The principal VOC at the site is trichloroethylene (TCE) (up to 2.5 ppm in unsaturated soil and 11 ppm in groundwater). Other VOCs detected at the site include dichloroethylene, chloroform, and toluene. Reported chemical handling facilities at the Site include a former aboveground chemical treatment system, a former waste chemical storage area, and an acid and trichloroethene (TCE) sump. Soil and groundwater pollution exist near or under these handling facilities.

   Concentrations have been reduced since remedial measures began. The highest groundwater concentration for TCE is currently about 2.4 ppm in the shallow zone and 0.66 ppm in the deep zone.

   Groundwater pollution at the Lynch site extends to the north site boundary. Seven off-site monitoring wells were installed to investigate the extent of plume migration from the site. Off-site investigations identified TCE in the groundwater beneath the Southern Pacific Railroad property and beneath the Central Expressway (Figure 1). Offsite investigations have been delayed due to difficulties in obtaining access from neighboring properties.

   The most downgradient offsite monitoring wells (LF-5 and LF-5B) still show TCE levels exceeding MCLs. These wells do not define a downgradient edge of the contaminant plume and additional monitoring wells are needed to determine and monitor vertical and lateral pollutant plume movement.

6. **Interim Remedial Measures**: Interim remedial measures began operating in July 1994. Approximately 10,000 gallons per day (gpd) of polluted groundwater is being extracted, treated and discharged. Ground water is being extracted from three wells in the shallow zone and one well in the deep zone along the northern edge of the Site. The shallow wells produce approximately one-half gallon per minute and the deep well produces approximately 5 gallons per minute. The estimated capture zone extends approximately 100 feet down gradient from the Site boundary.

   Limited excavation of waste solvent sumps and drainage lines occurred but no identifiable soil hot spots were identified. Vapor extraction is being used to remediate the soil. Soil vapor is being extracted from four wells located inside the building and one well located

near the outside wall to the south of the building. Well depth is approximately 45 feet. The flow rate is about 60 cubic feet per minute from each well.

Contaminated groundwater and soil vapor is treated using an air stripping and vapor-phase granular activated carbon. Treated groundwater is discharged to surface waters via a storm drain to the West Channel of the Santa Clara Flood Control Channel and South San Francisco Bay under NPDES permit requirements

7. **Regulatory Status**: The Board has adopted the following orders for this site:

   o Site Cleanup Requirements (Order No. 89-115) adopted June 21, 1989
   o Amendment to Site Cleanup Requirements (Order No. 90-090) adopted June 20, 1990
   o Amendment to Site Cleanup Requirements (Order No. 91-018) adopted February 20, 1991
   o Amendment to Site Cleanup Requirements (Order No. 93-161) adopted December 15, 1993
   o NPDES Permit (Order No. 93-158) adopted December 15, 1993

   The intent of this Order is to revise Order 89-115 and its amendments to include requirements for completing remedial investigations, evaluating the performance of the groundwater remedial actions, and preparation of a proposed final remedial action plan.

8. **Basin Plan**: The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 20, 1995, and November 13, 1995, respectively. A summary of regulatory provisions is contained in 23 CCR 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwaters.

   The potential beneficial uses of groundwater underlying and adjacent to the site include:

   a. Municipal and domestic water supply
   b. Industrial process water supply
   c. Industrial service water supply
   d. Agricultural water supply

9. **Other Board Policies**: Board Resolution No. 88-160 allows discharges of extracted, treated groundwater from site cleanups to surface waters only if it has been demonstrated that neither reclamation nor discharge to the sanitary sewer is technically and economically feasible.

   Board Resolution No. 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas of high TDS, low yield, or naturally-high contaminant levels.

10. **State Water Board Policies**: State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," applies to this discharge and requires attainment of background levels of water quality, or the highest level of water quality which is reasonable if background levels of water quality cannot be restored. Non-background cleanup levels must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses of such water, and not result in exceedance of applicable water quality objectives.

    State Water Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304," applies to this discharge. This order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.

11. **Preliminary Cleanup Goals**: The discharger will need to make assumptions about future cleanup standards for soil and groundwater, in order to determine the necessary extent of remedial investigation, interim remedial actions, and the draft cleanup plan. Pending the establishment of site-specific cleanup standards, the following preliminary cleanup goals should be used for these purposes:

    a. Groundwater: Applicable water quality objectives (e.g. maximum contaminant levels, or MCLs) or, in the absence of a chemical-specific objective, risk-based levels (e.g. drinking water equivalent levels).

    b. Soil: 1 mg/kg total volatile organic compounds (VOCs), 10 mg/kg total semi-volatile organic compounds (SVOCs), and background concentrations of metals.

12. **Basis for 13304 Order**: The discharger has caused or permitted waste to be discharged or deposited where it is or probably will be discharged into waters of the State and creates or threatens to create a condition of pollution or nuisance.

13. **Cost Recovery**: Pursuant to California Water Code Section 13304, the discharger is hereby notified that the Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this order.

14. **CEQA**: This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15321 of the Resources Agency Guidelines.

15. **Notification**: The Board has notified the discharger and all interested agencies and persons of its intent under California Water Code Section 13304 to prescribe site cleanup requirements for the discharge, and has provided them with an opportunity to submit their

written comments.

16. **Public Hearing**: The Board, at a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the discharger (or their agents, successors, or assigns) shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous substances in a manner which will degrade water quality or adversely affect beneficial uses of waters of the State is prohibited.

2. Further significant migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.

3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of wastes or hazardous substances are prohibited.

B. TASKS

1. WORKPLAN TO COMPLETE REMEDIAL INVESTIGATION

COMPLIANCE DATE: June 1, 1996

Submit a workplan acceptable to the Executive Officer to complete the definition of the vertical and lateral extent of groundwater pollution. The workplan should identify data gaps, specify investigation methods and a proposed time schedule. Work may be phased to allow the investigation to proceed efficiently.

2. FINAL REPORT ON VERTICAL AND LATERAL EXTENT OF CONTAMINATION

COMPLIANCE DATE: June 1, 1997

Submit a technical report acceptable to the Executive Officer documenting completion of necessary tasks identified in the Task 1 workplan. The technical report should define the vertical and lateral extent of pollution down to concentrations at or below typical cleanup standards for soil and groundwater.

3. PROPOSED FINAL REMEDIAL ACTIONS AND CLEANUP STANDARDS

COMPLIANCE DATE: June 1, 1997

Submit a technical report acceptable to the Executive Officer containing:

a. Feasibility study evaluating alternative remedial actions
b. Risk assessment for current and post-cleanup exposures
c. Evaluation of the performance of the interim remedial measures in accomplishing source control and regional plume migration control of contaminants
d. Recommended final remedial actions and cleanup standards
e. Implementation tasks and time schedule

Item a should include projections of cost, effectiveness, benefits, and impact on public health, welfare, and the environment of each alternative action.

Items a through d should be consistent with the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300), CERCLA guidance documents with respect to remedial investigations and feasibility studies, Health and Safety Code Section 25356.1(c), and State Board Resolution No. 92-49 as amended ("Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304").

Items a through e should consider the preliminary cleanup goals for soil and groundwater identified in finding 12.

6. **Delayed Compliance**: If the dischargers are delayed, interrupted, or prevented from meting one or more of the completion dates specified for the above tasks, the dischargers shall promptly notify the Executive Officer and the Board may consider revision to this Order.

C. PROVISIONS

1. **No Nuisance**: The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in California Water Code Section 13050(m).

2. **Good Operation and Maintenance (O&M)**: The dischargers shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.

3. **Cost Recovery**: The dischargers shall be liable, pursuant to California Water Code Section 13304, to the Board for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the site addressed by this Order is enrolled in a State Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the

procedures established in that program. Any disputes raised by the dischargers over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.

4. **Access to Site and Records**: In accordance with California Water Code Section 13267(c), the dischargers shall permit the Board or its authorized representative:

   a. Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.

   b. Access to copy any records required to be kept under the requirements of this Order.

   c. Inspection of any monitoring or remediation facilities installed in response to this Order.

   d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the dischargers.

5. **Self-Monitoring Program**: The dischargers shall comply with the Self-Monitoring Program as attached to this Order and as may be amended by the Executive Officer.

6. **Contractor/ Consultant Qualifications**: All hydrogeologic documents (plans, specifications, and reports) shall be signed by and stamped with the seal of a California registered geologist, a California certified engineering geologist, or a California registered civil engineer.

7. **Lab Qualifications**: All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control (QA/QC) records for Board review. This provision does not apply to analyses that can only reasonably be performed on-site (e.g. temperature).

8. **Document Distribution**: Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the following agencies:

   a. City of Sunnyvale
   b. Santa Clara County Health Department
   c. Santa Clara Valley Water District

9. **Reporting of Changed Owner or Operator**: The dischargers shall file a technical report on any changes in site occupancy or ownership associated with the property described in this Order.

10. **Reporting of Hazardous Substance Release**: If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, the dischargers shall report such discharge to the Regional Board by calling (510) 286-1255 during regular office hours (Monday through Friday, 8:00 to 5:00).

    A written report shall be filed with the Board within five working days. The report shall describe: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified.

    This reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.

11. **Rescission of Existing Order**: This Order rescinds Order Nos. 89-115, 90-090, 91-018, and 93-161.

12. **Periodic SCR Review**: The Board will review this Order periodically and may revise it when necessary. The dischargers may request revisions and upon review the Executive Officer may recommend that the Board revise these requirements.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on April 17, 1996.

Loretta K. Barsamian
Executive Officer

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FAILURE TO COMPLY WITH THE REQUIREMENTS OF THIS ORDER MAY SUBJECT YOU TO ENFORCEMENT ACTION, INCLUDING BUT NOT LIMITED TO: IMPOSITION OF ADMINISTRATIVE CIVIL LIABILITY UNDER WATER CODE SECTIONS 13267 OR 13350, OR REFERRAL TO THE ATTORNEY GENERAL FOR INJUNCTIVE RELIEF OR CIVIL OR CRIMINAL LIABILITY

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Attachments: Site Map
Self-Monitoring Program

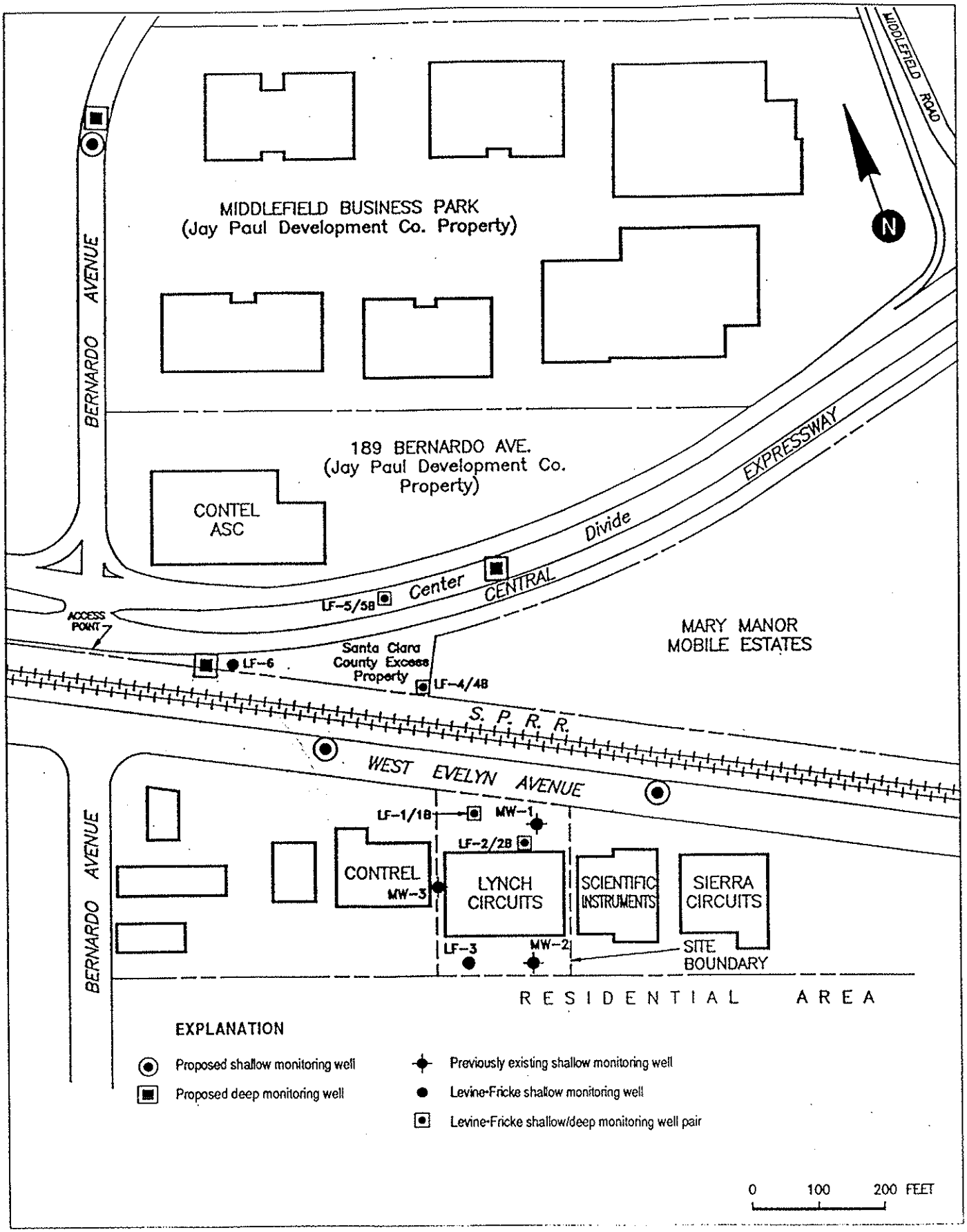

Figure 1: SITE MAP

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM FOR:

CIT-ALCATEL, INC. (formerly known as **LYNCH CIRCUITS, INC.**)
and
SILICONIX, INC.

for the property located at

1140 WEST EVELYN AVENUE
SUNNYVALE
SANTA CLARA COUNTY

1. **Authority and Purpose**: The Board requests the technical reports required in this Self-Monitoring Program pursuant to Water Code Sections 13267 and 13304. This Self-Monitoring Program is intended to document compliance with Board Order No. 96-050 (site cleanup requirements).

2. **Monitoring**: The dischargers shall measure groundwater elevations quarterly in all monitoring wells, and shall collect and analyze representative samples of groundwater according to the following schedule:

Well #	Sampling Frequency	Analyses	Well #	Sampling Frequency	Analyses
MW-1	SA	8010/8240	LF-11	SA	8010/8240
MW-2	SA	8010/8240	LF-1B	A	8240
MW-3	A	8240	LF-2B	SA	8010/8240
LF-1	SA	8010/8240	LF-3B	SA	8010/8240
LF-2	SA	8010/8240	LF-4B	A	8240
LF-3	SA	8010/8240	LF-5B	SA	8010/8240
LF-4	A	8240	LF-6B	SA	8010/8240
LF-5	SA	8010/8240	LF-5C	SA	8010/8240
LF-6	SA	8010/8240	EX-1	Q	8010/8240

LF-8	SA	8010/8240	ES-2	Q	8010/8240
LF-9	SA	8010/8240	EX-3	Q	8010/8240
LF-10	SA	8010/8240	ES-1B1	Q	8010/80240

Key: Q = Quarterly
SA = Semi-Annually
A = Annually

8010 = EPA Method 8010 or equivalent
8020 = EPA Method 8020 or equivalent
8240 = EPA Method 8240 or equivalent

8010/8240 (Q) = EPA Method 8240 in lieu of 8010 for fourth quarter
8010/8240 (SA) = EPA Method 8240 and 8010 alternate every six months

The dischargers shall sample any new monitoring or extraction wells quarterly and analyze groundwater samples for the same constituents as shown in the above table. The dischargers may propose changes in the above table; any proposed changes are subject to Executive Officer approval.

3. Annual Monitoring Reports: The dischargers shall submit annual monitoring reports to the Board no later than January 15. The reports shall include:

   a. Transmittal Letter: The transmittal letter shall discuss any violations during the reporting period and actions taken or planned to correct the problem. The letter shall be signed by the dischargers' principal executive officer or his/her duly authorized representative, and shall include a statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.

   b. Groundwater Elevations: Groundwater elevation data shall be presented in tabular form, and a groundwater elevation map should be prepared for each monitored water-bearing zone. Historical groundwater elevations shall be included in the fourth quarterly report each year.

   c. Groundwater Analyses: Groundwater sampling data shall be presented in tabular form, and an isoconcentration map should be prepared for one or more key contaminants for each monitored water-bearing zone, as appropriate. The report shall indicate the analytical method used, detection limits obtained for each reported constituent, and a summary of QA/QC data. Historical groundwater sampling results shall be included in the fourth quarterly report each year. The report shall describe any significant increases in contaminant concentrations since the last report, and any measures proposed to address the increases. Supporting data, such as lab data sheets, need not be included (however, see record keeping - below).

   d. Groundwater Extraction: If applicable, the report shall include groundwater extraction results in tabular form, for each extraction well and for the site as a whole, expressed

in gallons per minute and total groundwater volume for the quarter. The report shall also include contaminant removal results, from groundwater extraction wells and from other remediation systems (e.g. soil vapor extraction), expressed in units of chemical mass per day and mass for the quarter. Historical mass removal results shall be included in the fourth quarterly report each year.

e. Status Report: The quarterly report shall describe relevant work completed during the reporting period (e.g. site investigation, interim remedial measures) and work planned for the following quarter.

4. Violation Reports: If the dischargers violate requirements in the Site Cleanup Requirements, then the dischargers shall notify the Board office by telephone as soon as practicable once the dischargers have knowledge of the violation. Board staff may, depending on violation severity, require the dischargers to submit a separate technical report on the violation within five working days of telephone notification.

5. **Other Reports**: The dischargers shall notify the Board in writing prior to any site activities, such as construction or underground tank removal, which have the potential to cause further migration of contaminants or which would provide new opportunities for site investigation.

6. **Record Keeping**: The dischargers or their agent shall retain data generated for the above reports, including lab results and QA/QC data, for a minimum of six years after origination and shall make them available to the Board upon request.

7. **SMP Revisions**: Revisions to the Self-Monitoring Program may be ordered by the Executive Officer, either on his/her own initiative or at the request of the discharger. Prior to making SMP revisions, the Executive Officer will consider the burden, including costs, of associated self-monitoring reports relative to the benefits to be obtained from these reports.

I, Loretta K. Barsamian, Executive Officer, hereby certify that this Self-Monitoring Program was adopted by the Board on April 17, 1996.

Loretta K. Barsamian
Executive Officer